

DOE/NE-ID-11145  
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U.S. Department of Energy  
Idaho Operations Office

## ***Fiscal Year 2003 Operations and Maintenance Report for the Central Facilities Area***



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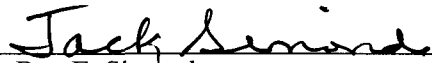
**March 2004**

**Prepared for the  
U.S. Department of Energy  
Idaho Operations Office**

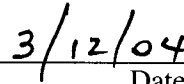
# Fiscal Year 2003 Operations and Maintenance Report for the Central Facilities Area

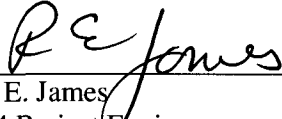
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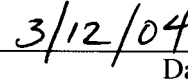


Roy E. Simonds  
WAG 4 Project Manager

  
Date



Robert E. James  
WAG 4 Project Engineer

  
Date

## ABSTRACT

This Operations and Maintenance Report provides and documents the operations and maintenance activities and inspection of the remedies and Record of Decision-mandated institutional controls for the Central Facilities Area (CFA) Comprehensive Environmental Response, Compensation, and Liability Act sites at the Idaho National Engineering and Environmental Laboratory. The *Record of Decision Declaration for Central Facilities Area Landfills I, II, and III (Operable Unit 4-12), and No Action Sites (Operable Unit 4-03)* requires annual inspection and reporting on five CFA sites with institutional controls including four sites with soil cover remedies. This report fulfills the requirement for the second annual CFA operations and maintenance and institutional control inspection and the third institutional control inspection since the signing of the *Record of Decision Declaration for Central Facilities Area Landfills I, II, and III (Operable Unit 4-12), and No Action Sites (Operable Unit 4-03)*.



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## **ACRONYMS**

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFA	Central Facilities Area
EPA	U.S. Environmental Protection Agency
FY	fiscal year
INEEL	Idaho National Engineering and Environmental Laboratory
OU	operable unit
WAG	waste area group





# **Fiscal Year 2003 Operations and Maintenance Report for the Central Facilities Area**

## **1. INTRODUCTION**

The purpose of this Operations and Maintenance Report is to document the Fiscal Year (FY) 2003 annual operations, maintenance, and institutional control inspections conducted for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites in Waste Area Group (WAG) 4 at the Idaho National Engineering and Environmental Laboratory (INEEL) Site.

This report documents the operations and maintenance activities and status of institutional controls at the five WAG 4 institutionally controlled sites: (1) Central Facilities Area (CFA) -01 (CFA Landfill I), (2) CFA-02 (CFA Landfill II), (3) CFA-03 (CFA Landfill III), (4) CFA-07 (French drains), and (5) CFA-08 (sewage plant drain field). In addition, Appendixes A and B include site inspection checklists and photographs of institutional controls at these sites.

## **2. BACKGROUND**

The CFA (location of WAG 4 sites) is located at the INEEL Site, as shown in Figure 1. The CFA includes buildings built in the 1940s and 1950s to house Navy gunnery-range personnel, administration offices, a shop, and warehouse space. The facilities have been modified over the years to fit changing needs. Presently, the CFA provides four major types of functional space: (1) crafts, (2) administrative offices, (3) maintenance services, and (4) a laboratory.

The INEEL is a government-owned/contractor-operated facility, managed by the U.S. Department of Energy Idaho Operations Office, is located 51 km (32 mi) west of Idaho Falls, Idaho (see Figure 1). The INEEL Site encompasses portions of five Idaho counties: (1) Butte, (2) Jefferson, (3) Bonneville, (4) Clark, and (5) Bingham, occupying 2,305 km<sup>2</sup> (890 mi<sup>2</sup>) of the northeastern portion of the Eastern Snake River Plain.

Based on the *Final Comprehensive Record of Decision for Central Facilities Area Operable Unit 4-13* (DOE-ID 2000), remedies for all WAG 4 CERCLA sites (52 sites in total) were evaluated under the comprehensive remedial investigation/feasibility study. Of these 52 sites, the Operable Unit (OU) 4-13 Record of Decision has required current institutional controls at five sites: the CFA-01, CFA-02, and CFA-03 landfills; the CFA-07 French drains; and the CFA-08 sewage plant drain field. One of these sites (CFA-08 sewage plant drain field) and two other sites required remedial action in accordance with the OU 4-13 Record of Decision (DOE-ID 2000). The lead-contaminated dirt in the CFA-10 transformer yard was removed in FY 2001 to below the U.S. Environmental Protection Agency (EPA) residential screening level of 400 mg/kg for lead; therefore, institutional controls are not required. In 2002, the CFA-08 sewage plant drain field was covered with an evapotranspiration cover. The cover requires inspections, maintenance, and institutional controls. In 2003, the mercury-contaminated dirt at the CFA-04 mercury pond was removed. Currently, the need for institutional controls to restrict residential use at CFA-04 is being calculated but is not anticipated to be required. The CFA-07 french drains have been remediated. No further operations and maintenance are required at CFA-07. Institutional controls will remain in place at CFA-07 because potentially radioactive contamination is present at depths below 3 m (10 ft). Figure 2 shows the location of the five WAG 4 sites at CFA as identified by the *Final Comprehensive Record of Decision for Central Facilities Area Operable Unit 4-13* (DOE-ID 2000).

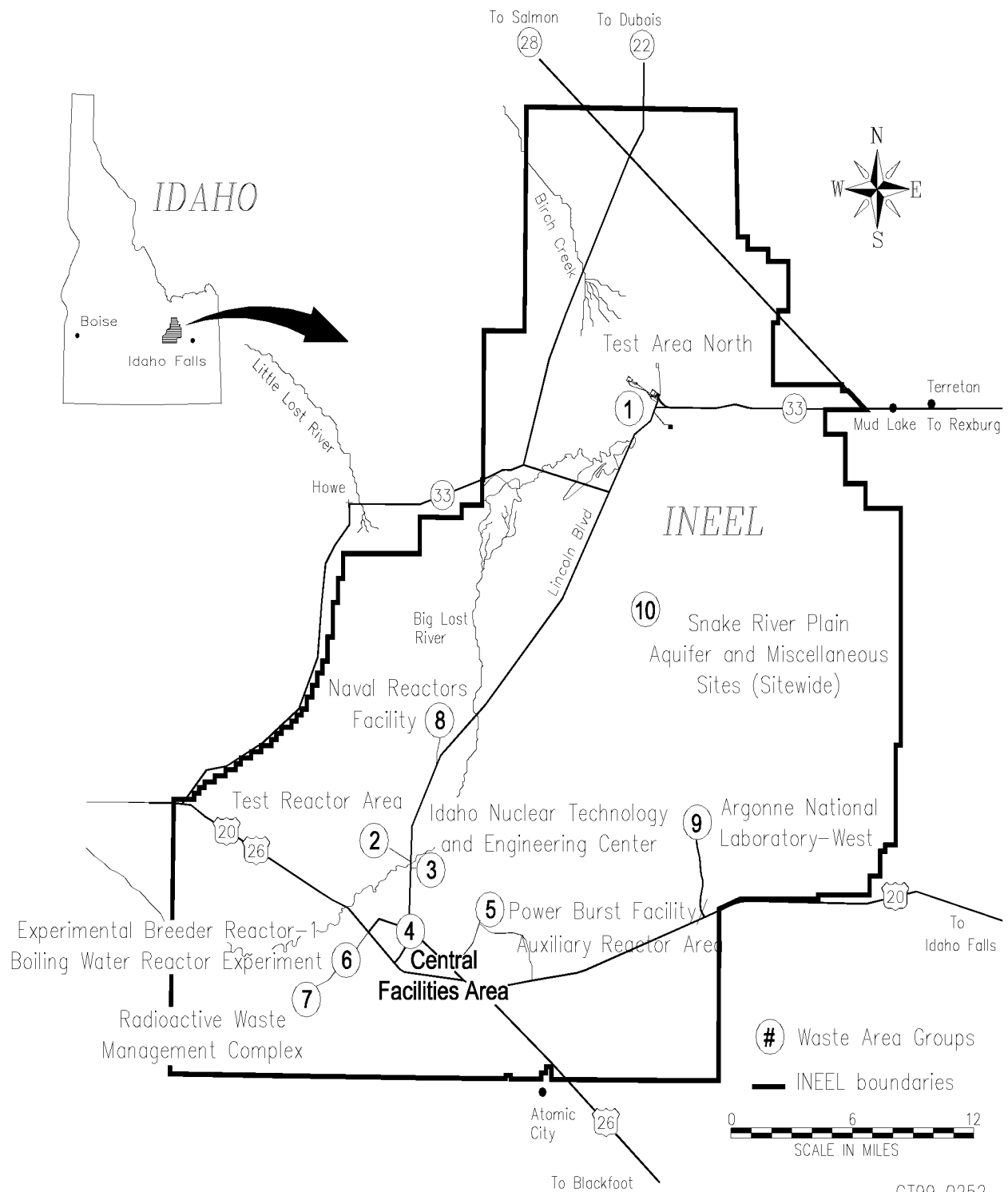


Figure 1. The Idaho National Engineering and Environmental Laboratory Site.

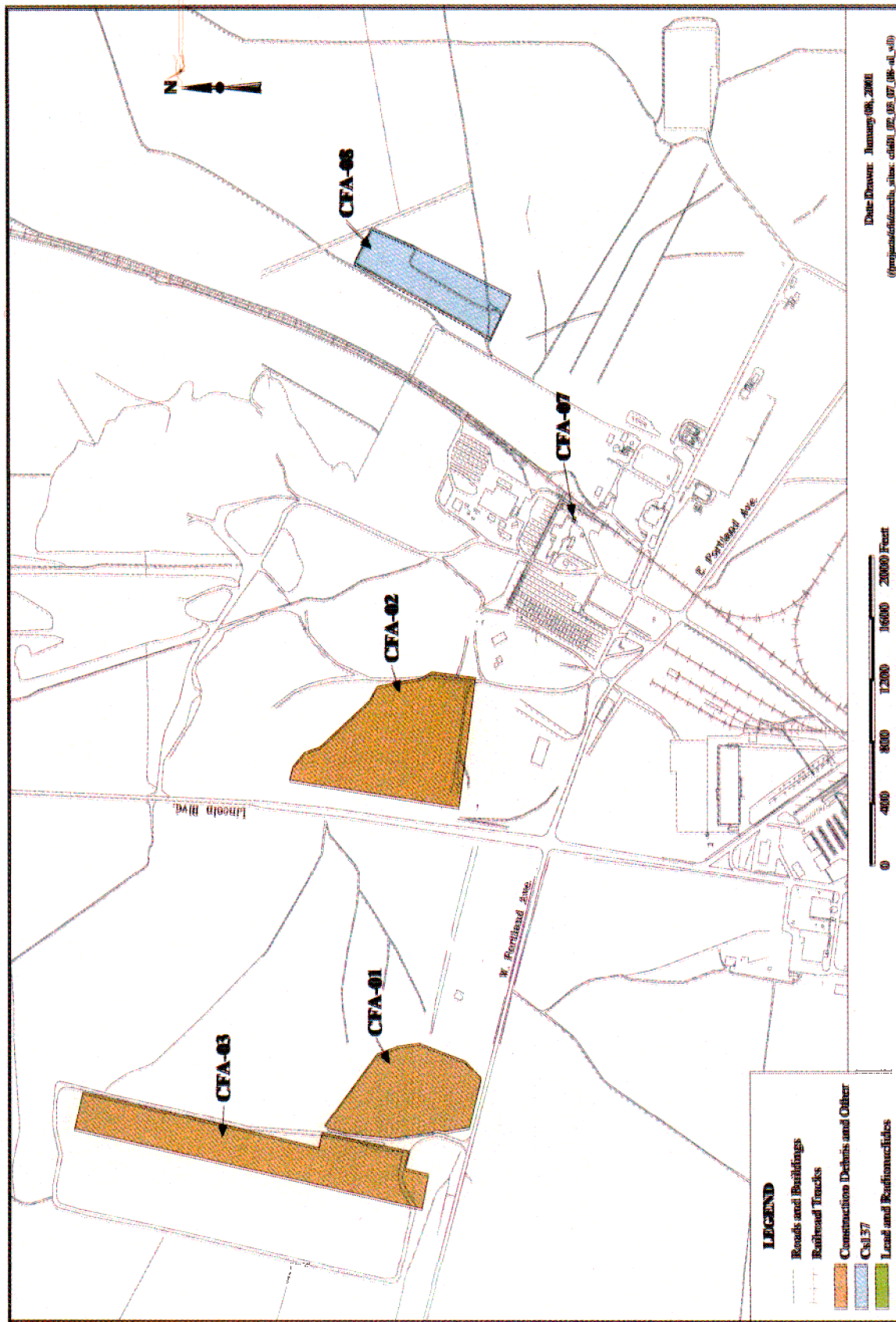


Figure 2. Location of Waste Area Group 4 institutional control sites at Central Facilities Area.

Inclusion of institutional controls for these sites is consistent with the *EPA Region 10 Final Policy on the Use of Institutional Controls at Federal Facilities* (EPA 1999) and with the requirement under CERCLA (42 USC 9601 et seq.) that, when waste is left in place above levels that allow unlimited use, appropriate controls must be in place to limit exposure and achieve acceptable levels of risk. Institutional controls are covered in *INEEL Sitewide Institutional Controls Plan for CERCLA Response Actions* (DOE-ID 2003) and are not inspected as part of the O&M inspection.

## **2.1 Idaho National Engineering and Environmental Laboratory Comprehensive Facility and Land-Use Plan**

The *Idaho National Engineering and Environmental Laboratory Comprehensive Facility and Land Use Plan* (DOE-ID 1997) documents and displays current and anticipated future land use and facility use at the INEEL. It provides guidance on facility and land use at the INEEL Site through the 100-year scenario. The Comprehensive Facility and Land Use Plan has been updated and includes specific land-use information about the CFA facility (available at <http://cflup.inel.gov>).

## **3. DESCRIPTION OF FISCAL YEAR 2003 OPERATIONS AND MAINTENANCE**

The annual operations and maintenance inspection for WAG 4, OU 4-13 was conducted on November 19, 2003. All five WAG 4 sites were visited. The WAG 4 technical task lead and two other technical support personnel performed the inspections. The following subsections detail the inspection results and other operations and maintenance activities conducted at the OU 4-13 sites. Appendix A contains the checklists used during the FY 2003 annual operations and maintenance inspection, and Appendix B contains the photographs from the inspection.

### **3.1 Soil Cover Erosion, Subsidence, and Intrusion**

The soil covers at sites CFA-01, CFA-02, and CFA-03 were visually inspected for erosion, subsidence, and intrusion in accordance with the *Operations and Maintenance Plan for the Final Selected Remedies and Institutional Controls at Central Facilities Area, Operable Unit 4-13* (DOE-ID 2002). Erosion rills were filled in as a result of last year's inspection, and no new rills had formed. A large animal burrow was found near the storm water run-off culvert on Landfill III, and a small animal burrow was found around LF2-5. Potential minor erosion was noted on the east side of Landfill II where waste is visible on the surface. This waste could be attributed to surfacing of buried waste or it could be attributed to waste blowing over from the nearby, active CFA landfills.

### **3.2 Topographical Survey**

A topographical survey was not performed. In accordance with the OU 4-13 Operations and Maintenance Plan (DOE-ID 2002), the next topographical survey is due before the next 5-year review in 2007.

### **3.3 Soil Cover Vegetation**

The vegetative cover at CFA-01, CFA-02, CFA-03, and CFA-08 was assessed during the FY 2003 inspections. In general, the vegetative cover is well established at Landfills I, II, and III. The predominant vegetation at the landfills is crested wheat grass and immature wheat grass. Primary encroachment of weeds and deep-rooting plants was removed in 2003.

Revegetation of the CFA-08 engineered cover was completed in the fall of 2002. Vegetation is visible on the cover. Grasses were noted around the base of the cover near the fence. Evenly spaced, small, bushy plants and small grasses also were noted on the entire cover. These plants and grasses will be identified and reassessed when they are green in the spring of 2004.

### **3.4 Rock Armor at Landfill II**

The rock armor on the north end of CFA-02 Landfill II was visually inspected during the FY 2003 annual operations and maintenance inspection. There was no visual evidence of subsidence or erosion.

### **3.5 Radiological Monitoring**

Radiological monitoring of the CFA-08 cover was not required in accordance with the OU 4-13 Operations and Maintenance Plan (DOE-ID 2002). The next radiological monitoring will be performed in 2005.

### **3.6 Maintenance Activities**

#### **3.6.1 Fiscal Year 2003 Maintenance Activities**

The following three maintenance activities were conducted during FY 2003:

- Filling and regrading of erosion rills, subsidence, and small mammal burrows
- Revegetation of the regraded areas and sparse vegetation areas at Landfills II and III identified during the FY 2002 inspections
- Removal of encroaching vegetation and noxious weeds at Landfills I, II, and III in order to control the spread of deep-rooting plants and noxious weeds.

#### **3.6.2 Fiscal Year 2004 Planned Maintenance Activities**

Maintenance activities planned for FY 2004 were identified during the FY 2003 inspections. These activities include the following:

- Repair the upper solar panel for heating the data processor for moisture infiltration monitoring on Landfill III
- Remove the neutron probe access tube locks and change the Operations and Maintenance Plan to not require them to be locked.

## **4. REFERENCES**

42 USC 9601 et seq., 1980, "Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA/Superfund)," *United States Code*, December 1980.

DOE-ID, 1995, *Record of Decision Declaration for Central Facilities Area Landfills I, II, and III (Operable Unit 4-12), and No Action Sites (Operable Unit 4-03)*, Document ID: 10146, Revision 0, U.S. Department of Energy Idaho Operations Office; U.S. Environmental Protection Agency, Region 10; Idaho Department of Health and Welfare, Division of Environmental Quality; October 1995.

DOE-ID, 1997, *Idaho National Engineering and Environmental Laboratory Comprehensive Facility & Land Use Plan*, DOE/ID-10514, U.S. Department of Energy Idaho Operations Office, December 1997. (Official Use Only) Unclassified version is available at <http://cflup.inel.gov>).

DOE-ID, 2000, *Final Comprehensive Record of Decision for Central Facilities Area Operable Unit 4-13*, DOE/ID-10719, Revision 2, July 2000.

DOE-ID, 2002, *Operations and Maintenance Plan for the Final Selected Remedies and Institutional Controls at Central Facilities Area, Operable Unit 4-13*, DOE/ID-10931, Revision 0, March 2002.

DOE-ID, 2003, *INEEL Sitewide Institutional Controls Plan for CERCLA Response Action*, DOE/ID-11042, Revision 0, December 2003.

EPA, 1999, *EPA Region 10 Final Policy on the Use of Institutional Controls at Federal Facilities*, Memorandum, U.S. Environmental Protection Agency, Region 10, May 1999.

## **Appendix A**

### **Fiscal Year 2003 Operable Unit 4-13 Operations and Maintenance Inspection Checklists**





**ANNUAL INSPECTION REPORT FORM FOR WAG 4**  
**INSTITUTIONAL CONTROL PLAN AND OPERATION AND MAINTENANCE PLAN**

Date 11/19/03

CFA-01, -02, and -03 Landfills

Inspector Deborah Wagoner  
Renee Fitch

INSPECTION ACTIVITY AT LANDFILLS	CFA-01	CFA-02	CFA-03	COMMENTS/RECOMMENDED REPAIR
----------------------------------	--------	--------	--------	-----------------------------

**INSTITUTIONAL CONTROLS**

1. Document signs/markers are in place.	ok	ok	ok	
2. Document fences/barriers restrict access.	ok	ok	ok	
3. Document site included in INEEL Land Use Plan	ok	ok	ok	eflup.inel.gov maps currently unavailable

**VEGETATIVE COVER**

1. Inspect for non-growth areas.	ok	ok	ok	
2. Inspect for sparse growth areas.	ok	ok	ok	
3. Inspect for weed encroachment.	ok	ok	ok	

**SOIL COVER**

1. Inspect for erosion areas.	ok	Minor erosion on east side	ok	
2. Inspect for subsidence areas or slope movement.	ok	ok	ok	
3. Inspect for animal intrusion.	ok	ok		Watch large animal burrow near stormwater runoff outlet on landfill III & around LF2-5-small
4. Conduct topographical survey.	NA	NA	NA	Not applicable until next 5-yr review

**TIME DOMAIN REFLECTOMETER (TDR)**

1. Inspect cabinet interior for unusual dirt or debris.	ok	ok	ok	
2. Inspect exterior and interior of cabinet for deterioration and presence of moisture or water.	ok	ok	ok	
3. Inspect solar collector barrel for condition/function.	ok	ok		upper solar panel for heating data processor on landfill III is broken off & on ground
4. Inspect and verify presence of guard post and/or impingement posts.	ok	ok	ok	

Printed Name of Inspector Deborah Wagoner

Photographs Taken ? ☒ Yes ☐ No

Signature

Deborah Wagoner

## ANNUAL INSPECTION REPORT FORM FOR WAG 4

## INSTITUTIONAL CONTROL PLAN AND OPERATION AND MAINTENANCE PLAN

Date 11/19/03

CFA-01, -02, and -03 Landfills

Inspector Deborah Wagoner  
Renee Fitch

INSPECTION ACTIVITY AT LANDFILLS	CFA-01	CFA-02	CFA-03	COMMENTS/RECOMMENDED REPAIR
----------------------------------	--------	--------	--------	-----------------------------

**INSTITUTIONAL CONTROLS**

1. Document signs/markers are in place.

2. Document fences/barriers restrict access.

3. Document site included in Land Use Plan

**VEGETATIVE COVER**

1. Inspect for non-growth areas.

2. Inspect for sparse growth areas.

3. Inspect for weed encroachment.

**SOIL COVER**

1. Inspect for erosion areas.

2. Inspect for subsidence areas or slope movement.

3. Inspect for animal intrusion.

4. Conduct topographical survey.

NA

NA

NA

Not applicable until next 5yr review

**TIME DOMAIN REFLECTOMETER (TDR)**

1. Inspect cabinet interior for unusual dirt or debris.

2. Inspect exterior and interior of cabinet for deterioration and presence of moisture or water.

3. Inspect solar collector barrel for condition/function.

4. Inspect and verify presence of guard posts <sup>and</sup> ~~impingement~~ posts.upper  
panel  
now pin of  
solenoidused to  
head  
data  
processor

Cabinet secure

no moisture

good shape

Impingement post in place

Printed Name of Inspector \_\_\_\_\_

~~11/19~~

Signature \_\_\_\_\_

Photographs Taken ? ☒ Yes ☐ No ☐

**ANNUAL INSPECTION REPORT FORM FOR WAG 4**  
**INSTITUTIONAL CONTROL PLAN AND OPERATION AND MAINTENANCE PLAN**

Date 11/19/03

CFA-01, -02, and -03 Landfills

Inspector Deborah Wagoner  
Renee Fitch

**SOIL GAS WELLS and NEUTRON PROBE ACCESS**

**TUBES (NPATs)**

1. Inspect for integrity.	ok	ok	ok	
2. Inspect for cleanliness.	ok	ok	ok	
3. Inspect operating condition of lock, rust on cover, well casing damage.				All NPAT locks are unlocked CFA-GAS-V-006 GSP2-2 sign partially gone
4. Inspect guard posts around well cover to verify they are stable.	ok	ok	ok	

**ROCK ARMOR**

1. Inspect to verify no more than 12 inches of subsidence of rock armor.	ok	ok	ok	
2. Conduct topographical survey.	NA	NA	NA	Not applicable until next 5-yr review

Printed Name of Inspector Deborah Wagoner

Signature

Deborah Wagoner

Photographs Taken ? ☒ Yes ☐ No

**ANNUAL INSPECTION REPORT FORM FOR WAG 4**  
**INSTITUTIONAL CONTROL PLAN AND OPERATION AND MAINTENANCE PLAN**

Date \_\_\_\_\_

Page 2

Inspector \_\_\_\_\_

**NEUTRON PROBE ACCESS TUBES (NPATs)**

1. Inspect for integrity.		ok		
2. Inspect for cleanliness.		ok		
3. Inspect operating condition of lock, rust on cover, well casing damage.				lock open, rusted cover but ok
4. Inspect guard posts around well cover to verify they are stable.		ok		

**ROCK ARMOR**

1. Inspect to verify no more than 12 inches of subsidence of rock armor.				
2. Conduct topographical survey.	NA	NA	NA	Not applicable until next 5-yr review

Vapor Pacts

LF2-5 has annual burrows  
 guard post good  
 Gas well - sign not  
 all the CFA-GAS-V-006  
 GSP2-2

Printed Name of Inspector \_\_\_\_\_

*AK*

Photographs Taken ? ☒ Yes ☐ No ☐

Signature \_\_\_\_\_

**ANNUAL INSPECTION REPORT FORM FOR WAG 4**  
**INSTITUTIONAL CONTROL PLAN AND OPERATION AND MAINTENANCE PLAN**

Date 11/19/03

CFA-08 Sewage Plant Drainfield

Inspector Deborah Wagoner  
Renee Fitch

**CFA DRAINFIELD CFA-08**

1. Document signs are in-place.	ok	
2. Document No Excavations or Drilling.	ok	
3. Inspect vegetation for sparse growth.		Growth looks good but need to re-inspect in spring to check type of vegetation that is growing. Good growth of grass between fence & edge of cover.
4. Inspect vegetation for weed encroachment.		
5. Inspect vegetation for non-growth.		
6. Inspect for erosion.	ok	
7. Inspect for subsidence.	ok	
8. Inspect for animal intrusion.	ok	None on cover, minor within fence but beyond cover
9. Inspect permanent markers.	ok	
10. Conduct radiological survey.	NA	Not applicable until 2005
11. Document site is included in INEEL Land Use Plan	ok	

Additional Comments or Notes:


Printed Name of Inspector Deborah Wagoner

Photographs Taken ? ☒ Yes ☐ No

Signature Deborah Wagoner

ANNUAL INSPECTION REPORT FORM FOR WAG 4

INSTITUTIONAL CONTROL PLAN AND OPERATION AND MAINTENANCE PLAN

Date 11/19/03 CFA-08 Sewage Plant Drainfield and ~~Spreading Area A~~ Inspector Robert Wagner Kirre Fitch

CFA DRAINFIELD CFA-08		
1. Document signs are in-place.	yes	
2. Document No Excavations or Drilling.	ok	
3. Inspect vegetation for sparse growth.		Growth looks good - need to re-insp in spring to check type of vegetation
4. Inspect vegetation for weed encroachment.		Check in spring - need to re-insp in spring to check type of vegetation
5. Inspect vegetation for non-growth.		Growth looks good - need to re-insp in spring to check type of vegetation
6. Inspect for erosion.	none	
7. Inspect for subsidence.	none	
8. Inspect for animal intrusion.	none	none on site - none on site beyond corn field
9. Inspect permanent markers.	ok	
10. Conduct radiological survey.	NA	Not applicable until 2005
11. Document site included in Land Use Plan		

Additional Comments or Notes:


Printed Name of Inspector Robert Wagner Kirre Fitch Signature \_\_\_\_\_  
 Photographs Taken? ☒ Yes ☐ No

**ANNUAL INSPECTION REPORT FORM FOR WAG 4**  
**INSTITUTIONAL CONTROL PLAN AND OPERATION AND MAINTENANCE PLAN**

Date 11/19/03

CFA-07 French Drains

Inspector Deborah Wagoner  
Renee Fitch

**CFA French Drains CFA-07**

1. Document signs are in-place.	<u>ok</u>	
2. Document No Excavations or Drilling.	<u>ok</u>	
3. Document site included in INEEL Land Use Plan	<u>ok</u>	<u>eflup.incl.gov. but no maps</u>

Additional Comments or Notes:


Printed Name of Inspector Deborah Wagoner

Signature

Deborah Wagoner

Photographs Taken ? ☒ Yes ☐ No





## **Appendix B**

### **Fiscal Year 2003 Operable Unit 4-13 Operations and Maintenance Inspection Photographs**



# SITE INSPECTION PHOTO LOG

WASTE AREA GROUP 4

CENTRAL FACILITIES AREA

DATE: \_11/19/03\_

TIME OF DAY (if applicable): \_\_\_\_\_

WEATHER CONDITIONS: Sunny and cool \_\_\_\_\_

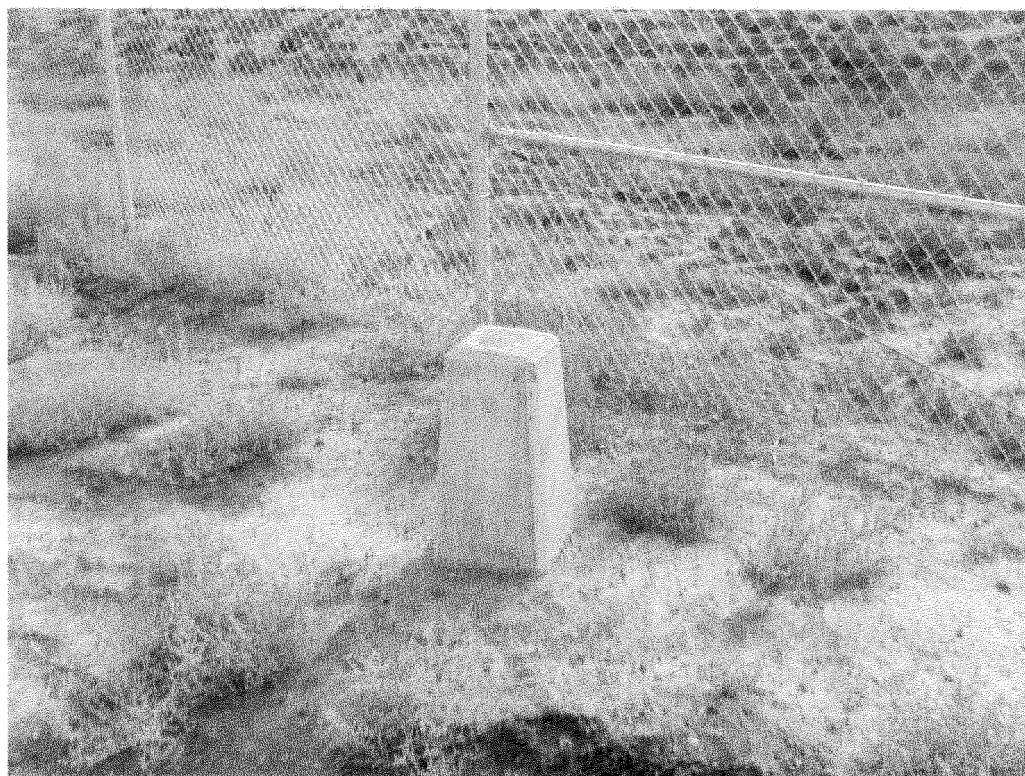
FILM TYPE: Digital \_\_\_\_\_

Figure Number	Photo Number	Location and Direction	Description
Figure B-1	PB190828	CFA-08 NE	IC sign on SW corner
Figure B-2	PB190830	CFA-08 SW	NW corner monument
Figure B-3	PB190832	CFA-08 SW	Vegetation on base and side of cover
Figure B-4	PB190841	CFA-02, inside south entrance, NW	CFA-02 vegetation on road entrance
Figure B-5	PB190843	CFA-01 middle of cover, NW	CFA-01 vegetation
Figure B-6	PB190846	CFA-03 cover south side	CA-03 cracked crust, distance
Figure B-7	PB190847	CFA-03 cover west side	CFA-03 vegetation



PB190828

Figure B-1. CFA-08, southwest corner, looking northeast.



PB190830

Figure B-2. CFA-08, corner monument at northwest corner.



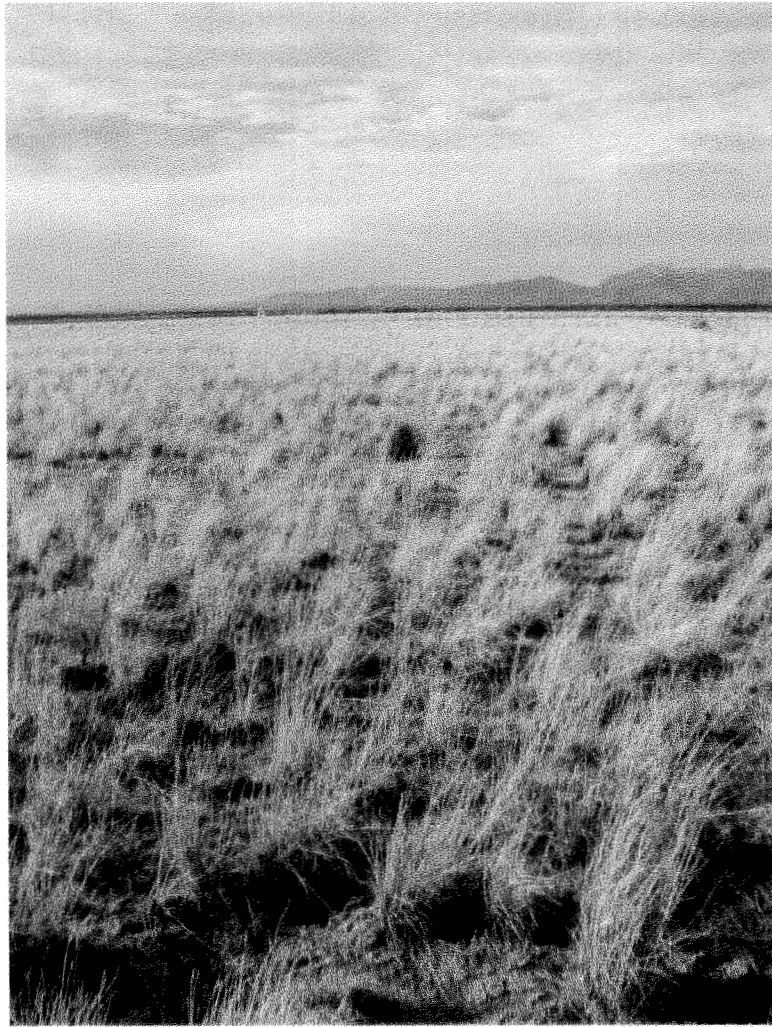
PB190832

Figure B-3. CFA-08 vegetation on base and side cover.



PB190841

Figure B-4. CFA-02 vegetation inside south entrance.



PB190843

Figure B-5. CFA-01 vegetation on middle of cover.





PB190846

Figure B-6. CFA-03 vegetation on cover, south side.



PB190847

Figure B-7. CFA-03 vegetation on cover, west side.